

Notice of Allowability

Application No.

09/965,967

Examiner

Sheridan K. Snedden

Applicant(s)

SHI, YIGONG

Art Unit

1653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 2/17/2005.
2. ☒ The allowed claim(s) is/are 1-4, 6-7 and 13-20.
3. ☒ The drawings filed on 28 September 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>8/6/04</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input checked="" type="checkbox"/> Other <u>Petition Granted</u> . |

EXAMINER'S AMENDMENT

1. This Office Action is in response to Paper filed 2/17/2005. Claims 5 and 12 have been canceled. Applicant's amendment of claims 1-4, 6 and 18 is acknowledged.
2. Claims 7, 13-17, and 19-20 are rejoined.
3. The objections and/or rejections not explicitly restated or stated below are withdrawn.
4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Raymond Miller on March 30, 2005.

5. The application has been amended as follows:

Cancel claims 8-11 and 21-32.

Claim 1. A composition comprised of a peptidomimetic of a tetrapeptide having sequence
X1-X2-X3-X4 wherein

X1 is A,

X2 is selected from the group consisting of V, T, and I,

Art Unit: 1653

X3 is selected from the group consisting of P and A_x

X4 is selected from the group consisting of F, Y, I and V, and

wherein said peptidomimetic is capable of binding a BIR-3 domain of an Inhibitor of Apoptosis Protein (IAP), wherein at least one of the amino acids is replaced with ~~includes~~ a modified amino acid, or at least one of the peptide bonds is replaced with a peptide bond substitute, and ~~binds~~ wherein the binding within a surface groove of the ~~within a BIR-3 domain of the IAP is affected~~.

Claim 7: replace “synthetic peptide” with “composition.”

Claim 13, line 2: replace “synthetic peptide” with “composition.”

Claim 18. A compound that binds a BIR-3 domain of an Inhibitor of Apoptosis Protein (IAP) and relieves IAP mediated inhibition of caspase activity, the compound having a formula of R1-R2-R3-R4 wherein

R1 is A or a mimetic of A;

R2 is V, T, or I, or a mimetic of V, T, ~~or I~~, or I;

R3 is P or A, or a mimetic of P or A; ~~and~~

R4 is F, Y, I or V, or a mimetic of F, Y, I or V; and

~~and said compound includes a modified amino acid or peptide bond, wherein said compound includes a non-peptide portion which mimics R1, R2, R3 or R4~~

wherein said peptidomimetic is capable of binding a BIR-3 domain of an Inhibitor of Apoptosis Protein (IAP), wherein at least one of the amino acids is replaced with a modified amino acid, or at least one of the peptide bonds is replaced with a peptide bond substitutes, and wherein the binding within a surface groove of the BIR-3 domain of the IAP is affected.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance: Prior art reference teaches AVPI and like molecules, but does not teach the importance of the tetramer, the crystalline structure, or inhibition of IAP via BIR3 binding domain. Thus, the prior art is absent a suggestion or motivation to modify the recited tetramer for the purposes of affecting IAP binding via the BIR3 domain, the absence of which precludes an obviousness determination. Applicant's arguments and amendments to the above claims are sufficient to overcome the rejections of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. Claims 1-4, 6-7 and 13-20 are allowed.

Art Unit: 1653

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheridan K Snedden whose telephone number is (703) 305-4843.

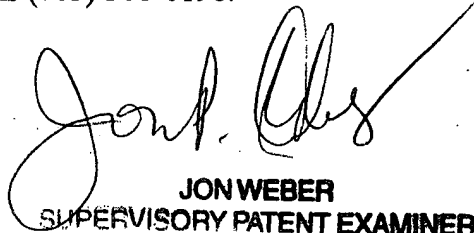
The examiner can normally be reached on Monday - Friday, 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached on (571) 272-0925. The fax phone number for regular communications to the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

SKS
April 18, 2005

SKS



JON WEBER
SUPERVISORY PATENT EXAMINER